SEQUENCE LISTING



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Haapalahti, Jouko

<120> Assay

<130> 50318/011001

<150> PCT/EP2004/006971
<151> 2004-06-28

<150> GB 031 5291.5
<151> 2003-06-30

<160> 36

<170> PatentIn version 3.3

<210> 1
<211> 126
<212> PRT
<213> Homo sapiens

<400> 1

Asn Pro Met Tyr Asn Ala Val Ser Asn Ala Asp Leu Met Asp Phe Lys
1 5 10 15

Asn Leu Leu Asp His Leu Glu Glu Lys Met Pro Leu Glu Asp Glu Val
20 25 30

Val Pro Pro Gln Val Leu Ser Glu Pro Asn Glu Glu Ala Gly Ala Ala
35 40 45

Leu Ser Pro Leu Pro Glu Val Pro Pro Trp Thr Gly Glu Val Ser Pro
50 55 60

Ala Gln Arg Asp Gly Gly Ala Leu Gly Arg Gly Pro Trp Asp Ser Ser
65 70 75 80

Asp Arg Ser Ala Leu Leu Lys Ser Lys Leu Arg Ala Leu Leu Thr Ala
85 90 95

Pro Arg Ser Leu Arg Arg Ser Ser Cys Phe Gly Gly Arg Met Asp Arg
100 105 110

Ile Gly Ala Gln Ser Gly Leu Gly Cys Asn Ser Phe Arg Tyr
115 120 125

<210> 2
<211> 28
<212> PRT
<213> Homo sapiens

<400> 2

Ser Leu Arg Arg Ser Ser Cys Phe Gly Gly Arg Met Asp Arg Ile Gly
1 5 10 15

Ala Gln Ser Gly Leu Gly Cys Asn Ser Phe Arg Tyr
20 25

<210> 3
<211> 98
<212> PRT
<213> Homo sapiens

<400> 3

Asn Pro Met Tyr Asn Ala Val Ser Asn Ala Asp Leu Met Asp Phe Lys
1 5 10 15

Asn Leu Leu Asp His Leu Glu Glu Lys Met Pro Leu Glu Asp Glu Val
20 25 30

Val Pro Pro Gln Val Leu Ser Glu Pro Asn Glu Glu Ala Gly Ala Ala
35 40 45

Leu Ser Pro Leu Pro Glu Val Pro Pro Trp Thr Gly Glu Val Ser Pro
50 55 60

Ala Gln Arg Asp Gly Gly Ala Leu Gly Arg Gly Pro Trp Asp Ser Ser
65 70 75 80

Asp Arg Ser Ala Leu Leu Lys Ser Lys Leu Arg Ala Leu Leu Thr Ala
85 90 95

Pro Arg

<210> 4
<211> 108
<212> PRT

<213> Homo sapiens

<400> 4

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His Pro Leu Gly Ser Pro Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly
1               5                   10                  15

Leu Gln Glu Gln Arg Asn His Leu Gln Gly Lys Leu Ser Glu Leu Gln
            20                  25                  30

Val Glu Gln Thr Ser Leu Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr
        35                  40                  45

Gly Val Trp Lys Ser Arg Glu Val Ala Thr Glu Gly Ile Arg Gly His
    50                  55                  60

Arg Lys Met Val Leu Tyr Thr Leu Arg Ala Pro Arg Ser Pro Lys Met
65                  70                  75                  80

Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp Arg Ile Ser Ser
                85                  90                  95

Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His
            100                 105
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<210> 5
<211> 32
<212> PRT
<213> Homo sapiens

<400> 5

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Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
1               5                   10                  15

Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His
            20                  25                  30
```

<210> 6
<211> 76
<212> PRT
<213> Homo sapiens

<400> 6

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His Pro Leu Gly Ser Pro Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly
1               5                   10                  15
```

```
Leu Gln Glu Gln Arg Asn His Leu Gln Gly Lys Leu Ser Glu Leu Gln
            20                  25                  30

Val Glu Gln Thr Ser Leu Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr
        35                  40                  45

Gly Val Trp Lys Ser Arg Glu Val Ala Thr Glu Gly Ile Arg Gly His
    50                  55                  60

Arg Lys Met Val Leu Tyr Thr Leu Arg Ala Pro Arg
65                  70                  75
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<210> 7
<211> 378
<212> DNA
<213> Homo sapiens

<400> 7
aatcccatgt acaatgccgt gtccaacgca gacctgatgg atttcaagaa tttgctggac 60

catttggaag aaaagatgcc tttagaagat gaggtcgtgc ccccacaagt gctcagtgag 120

ccgaatgaag aagcgggggc tgctctcagc cccctccctg aggtgcctcc ctggaccggg 180

gaagtcagcc cagcccagag agatggaggt gccctcgggc ggggcccctg ggactcctct 240

gatcgatctg ccctcctaaa aagcaagctg agggcgctgc tcactgcccc tcggagcctg 300

cggagatcca gctgcttcgg gggcaggatg gacaggattg gagcccagag cggactgggc 360

tgtaacagct tccggtac 378

<210> 8
<211> 84
<212> DNA
<213> Homo sapiens

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agcctgcgga gatccagctg cttcgggggc aggatggaca ggattggagc ccagagcgga 60

ctgggctgta acagcttccg gtac 84

<210> 9
<211> 294
<212> DNA
<213> Homo sapiens

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aatcccatgt acaatgccgt gtccaacgca gacctgatgg atttcaagaa tttgctggac 60

catttggaag aaaagatgcc tttagaagat gaggtcgtgc ccccacaagt gctcagtgag 120

ccgaatgaag aagcgggggc tgctctcagc cccctccctg aggtgcctcc ctggaccggg 180

gaagtcagcc cagcccagag agatggaggt gccctcgggc ggggcccctg ggactcctct 240

gatcgatctg ccctcctaaa aagcaagctg agggcgctgc tcactgcccc tcgg 294

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<211> 324
<212> DNA
<213> Homo sapiens

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cgcaaccatt tgcagggcaa actgtcggag ctgcaggtgg agcagacatc cctggagccc 120

ctccaggaga gcccccgtcc cacaggtgtc tggaagtccc gggaggtagc caccgagggc 180

atccgtgggc accgcaaaat ggtcctctac accctgcggg caccacgaag ccccaagatg 240

gtgcaagggt ctggctgctt tgggaggaag atggaccgga tcagctcctc cagtggcctg 300

ggctgcaaag tgctgaggcg gcat 324

<210> 11
<211> 96
<212> DNA
<213> Homo sapiens

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agccccaaga tggtgcaagg gtctggctgc tttgggagga agatggaccg gatcagctcc 60

tccagtggcc tgggctgcaa agtgctgagg cggcat 96

<210> 12
<211> 228
<212> DNA
<213> Homo sapiens

<400> 12
cacccgctgg gcagccccgg ttcagcctcg gacttggaaa cgtccgggtt acaggagcag 60

cgcaaccatt tgcagggcaa actgtcggag ctgcaggtgg agcagacatc cctggagccc 120

ctccaggaga gcccccgtcc cacaggtgtc tggaagtccc gggaggtagc caccgagggc 180

atccgtgggc accgcaaaat ggtcctctac accctgcggg caccacga 228

<210> 13
<211> 25
<212> PRT

<213> Artificial sequence

<220>
<223>

<400> 13

Ser Gly Leu Gln Glu Gln Arg Asn His Leu Arg Ser Ala Leu Leu Lys
1 5 10 15

Ser Lys Leu Arg Ala Leu Leu Thr Ala
20 25

<210> 14
<211> 107
<212> PRT
<213> Artificial sequence

<220>
<223>

<400> 14

His Pro Leu Gly Ser Pro Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly
1 5 10 15

Leu Gln Glu Gln Arg Asn His Leu Gln Gly Lys Leu Ser Glu Leu Gln
20 25 30

Val Glu Gln Thr Ser Glu Asp Glu Val Val Pro Pro Gln Val Leu Ser
35 40 45

Glu Pro Asn Glu Glu Ala Gly Ala Ala Leu Ser Pro Leu Pro Glu Val
50 55 60

Pro Pro Trp Thr Gly Glu Val Ser Pro Ala Gln Arg Asp Gly Gly Ala
65 70 75 80

Leu Gly Arg Gly Pro Trp Asp Ser Ser Asp Arg Ser Ala Leu Leu Lys
85 90 95

Ser Lys Leu Arg Ala Leu Leu Thr Ala Pro Arg
100 105

<210> 15
<211> 81
<212> PRT
<213> Artificial sequence

<220>
<223>

<400> 15

Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn His Leu Gln
1 5 10 15

Gly Lys Leu Ser Asp His Leu Glu Glu Lys Met Pro Leu Glu Asp Glu
20 25 30

Val Val Pro Pro Gln Val Leu Ser Glu Pro Asn Glu Glu Ala Gly Ala
35 40 45

Ala Leu Ser Pro Leu Pro Glu Val Pro Pro Trp Thr Gly Glu Val Ser
50 55 60

Pro Ala Gln Arg Asp Gly Gly Ala Leu Gly Arg Gly Pro Trp Asp Ser
65 70 75 80

Ser

<210> 16
<211> 4
<212> PRT
<213> Artificial sequence

<220>
<223>

<400> 16

Gly Lys Tyr Gly
1

<210> 17
<211> 174
<212> PRT
<213> Artificial sequence

<220>
<223>

<400> 17

His Pro Leu Gly Ser Pro Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly
1 5 10 15

```
Leu Gln Glu Gln Arg Asn His Leu Gln Gly Lys Leu Ser Glu Leu Gln
            20                  25                  30

Val Glu Gln Thr Ser Leu Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr
        35                  40                  45

Gly Val Trp Lys Ser Arg Glu Val Ala Thr Glu Gly Ile Arg Gly His
    50                  55                  60

Arg Lys Met Val Leu Tyr Thr Leu Arg Ala Pro Arg Asn Pro Met Tyr
65                  70                  75                  80

Asn Ala Val Ser Asn Ala Asp Leu Met Asp Phe Lys Asn Leu Leu Asp
                85                  90                  95

His Leu Glu Glu Lys Met Pro Leu Glu Asp Glu Val Val Pro Pro Gln
            100                 105                 110

Val Leu Ser Glu Pro Asn Glu Glu Ala Gly Ala Ala Leu Ser Pro Leu
        115                 120                 125

Pro Glu Val Pro Pro Trp Thr Gly Glu Val Ser Pro Ala Gln Arg Asp
    130                 135                 140

Gly Gly Ala Leu Gly Arg Gly Pro Trp Asp Ser Ser Asp Arg Ser Ala
145                 150                 155                 160

Leu Leu Lys Ser Lys Leu Arg Ala Leu Leu Thr Ala Pro Arg
                165                 170
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<210> 18
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<212> PRT
<213> Artificial sequence

<220>
<223>

<400> 18

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Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn His Leu Gln
1               5                   10                  15

Gly Lys Leu Ser Gly Glu Val Ser Pro Ala Gln Arg Asp Gly Gly Ala
            20                  25                  30
```

Leu Gly Arg Gly Pro Trp Asp Ser Ser
35 40

<210> 19
<211> 234
<212> PRT
<213> Artificial sequence

<220>
<223>

<400> 19

His Pro Leu Gly Ser Pro Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly
1 5 10 15

Leu Gln Glu Gln Arg Asn His Leu Gln Gly Lys Leu Ser Glu Leu Gln
20 25 30

Val Glu Gln Thr Ser Leu Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr
35 40 45

Gly Val Trp Lys Ser Arg Glu Val Ala Thr Glu Gly Ile Arg Gly His
50 55 60

Arg Lys Met Val Leu Tyr Thr Leu Arg Ala Pro Arg Ser Pro Lys Met
65 70 75 80

Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp Arg Ile Ser Ser
85 90 95

Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His Asn Pro Met Tyr
100 105 110

Asn Ala Val Ser Asn Ala Asp Leu Met Asp Phe Lys Asn Leu Leu Asp
115 120 125

His Leu Glu Glu Lys Met Pro Leu Glu Asp Glu Val Val Pro Pro Gln
130 135 140

Val Leu Ser Glu Pro Asn Glu Glu Ala Gly Ala Ala Leu Ser Pro Leu
145 150 155 160

Pro Glu Val Pro Pro Trp Thr Gly Glu Val Ser Pro Ala Gln Arg Asp

```
                165                 170                 175

Gly Gly Ala Leu Gly Arg Gly Pro Trp Asp Ser Ser Asp Arg Ser Ala
            180                 185                 190

Leu Leu Lys Ser Lys Leu Arg Ala Leu Leu Thr Ala Pro Arg Ser Leu
        195                 200                 205

Arg Arg Ser Ser Cys Phe Gly Gly Arg Met Asp Arg Ile Gly Ala Gln
    210                 215                 220

Ser Gly Leu Gly Cys Asn Ser Phe Arg Tyr
225                 230
```

<210> 20
<211> 31
<212> PRT
<213> Artificial sequence

<220>
<223>

<400> 20

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Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
1               5                   10                  15

Arg Ile Gly Ala Gln Ser Gly Leu Gly Cys Asn Ser Phe Arg Tyr
            20                  25                  30
```

<210> 21
<211> 75
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 21
tccgggttac aggagcagcg caaccatttg cgatctgccc tcctaaaaag caagctgagg 60

gcgctgctca ctgcc 75

<210> 22
<211> 321
<212> DNA
<213> Artificial sequence

<220>

<223>

<400> 22
cacccgctgg gcagccccgg ttcagcctcg gacttggaaa cgtccgggtt acaggagcag 60

cgcaaccatt tgcagggcaa actgtcggag ctgcaggtgg agcagacatc cgaagatgag 120

gtcgtgcccc cacaagtgct cagtgagccg aatgaagaag cgggggctgc tctcagcccc 180

ctccctgagg tgcctccctg gaccggggaa gtcagcccag cccagagaga tggaggtgcc 240

ctcgggcggg gcccctggga ctcctctgat cgatctgccc tcctaaaaag caagctgagg 300

gcgctgctca ctgcccctcg g 321

<210> 23
<211> 241
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 23
tcggacttgg aaacgtccgg gttacaggag cagcgcaacc atttgcaggg caaactgtga 60

ccatttggaa gaaaagatgc ctttagaaga tgaggtcgtg cccccacaag tgctcagtga 120

gccgaatgaa gaagcggggg ctgctctcag ccccctccct gaggtgcctc cctggaccgg 180

ggaagtcagc ccagcccaga gagatggagg tgccctcggg cggggcccct gggactcctc 240

t 241

<210> 24
<211> 522
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 24
cacccgctgg gcagccccgg ttcagcctcg gacttggaaa cgtccgggtt acaggagcag 60

cgcaaccatt tgcagggcaa actgtcggag ctgcaggtgg agcagacatc cctggagccc 120

ctccaggaga gcccccgtcc cacaggtgtc tggaagtccc gggaggtagc caccgagggc 180

atccgtgggc accgcaaaat ggtcctctac accctgcggg caccacgaaa tcccatgtac 240

aatgccgtgt ccaacgcaga cctgatggat ttcaagaatt tgctggacca tttggaagaa 300

aagatgcctt tagaagatga ggtcgtgccc ccacaagtgc tcagtgagcc gaatgaagaa 360

gcgggggctg ctctcagccc cctccctgag gtgcctccct ggaccgggga agtcagccca 420

gcccagagag atggaggtgc cctcgggcgg ggcccctggg actcctctga tcgatctgcc 480

ctcctaaaaa gcaagctgag ggcgctgctc actgcccctc gg 522

<210> 25
<211> 123
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 25
tcggacttgg aaacgtccgg gttacaggag cagcgcaacc atttgcaggg caaactgtcg 60

ggggaagtca gcccagccca gagagatgga ggtgccctcg ggcggggccc ctgggactcc 120

tct 123

<210> 26
<211> 702
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 26
cacccgctgg gcagccccgg ttcagcctcg gacttggaaa cgtccgggtt acaggagcag 60

cgcaaccatt tgcagggcaa actgtcggag ctgcaggtgg agcagacatc cctggagccc 120

ctccaggaga gcccccgtcc cacaggtgtc tggaagtccc gggaggtagc caccgagggc 180

atccgtgggc accgcaaaat ggtcctctac accctgcggg caccacgaag ccccaagatg 240

gtgcaagggt ctggctgctt tgggaggaag atggaccgga tcagctcctc cagtggcctg 300

ggctgcaaag tgctgaggcg gcataatccc atgtacaatg ccgtgtccaa cgcagacctg 360

atggatttca agaatttgct ggaccatttg gaagaaaaga tgcctttaga agatgaggtc 420

gtgcccccac aagtgctcag tgagccgaat gaagaagcgg gggctgctct cagccccctc 480

cctgaggtgc ctccctggac cggggaagtc agcccagccc agagagatgg aggtgccctc 540

gggcggggcc cctgggactc ctctgatcga tctgccctcc taaaaagcaa gctgagggcg 600

ctgctcactg cccctcggag cctgcggaga tccagctgct tcgggggcag gatggacagg 660

attggagccc agagcggact gggctgtaac agcttccggt ac 702

<210> 27
<211> 93
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 27
agccccaaga tggtgcaagg gtctggctgc tttgggagga agatggacag gattggagcc 60

cagagcggac tgggctgtaa cagcttccgg tac 93

<210> 28
<211> 27
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 28
gcggatccca cccgctgggc agccccg 27

<210> 29
<211> 24
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 29
gctctagagg atgtctgctc cacc 24

<210> 30
<211> 24
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 30
gctctagaga agatgaggtc gtgc 24

<210> 31
<211> 27
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 31
gcgaattctc accgaggggc agtgagc 27

<210> 32
<211> 25
<212> DNA
<213> Artificial sequence

<220>
<223>

<400> 32
gcggatccta ccacccgctg ggcag 25

<210> 33
<211> 1061
<212> PRT
<213> Homo sapiens

<400> 33

Met Pro Gly Pro Arg Arg Pro Ala Gly Ser Arg Leu Arg Leu Leu Leu
1 5 10 15

Leu Leu Leu Leu Pro Pro Leu Leu Leu Leu Leu Arg Gly Ser His Ala
20 25 30

Gly Asn Leu Thr Val Ala Val Val Leu Pro Leu Ala Asn Thr Ser Tyr
35 40 45

Pro Trp Ser Trp Ala Arg Val Gly Pro Ala Val Glu Leu Ala Leu Ala
50 55 60

Gln Val Lys Ala Arg Pro Asp Leu Leu Pro Gly Trp Thr Val Arg Thr
65 70 75 80

Val Leu Gly Ser Ser Glu Asn Ala Leu Gly Val Cys Ser Asp Thr Ala
85 90 95

Ala Pro Leu Ala Ala Val Asp Leu Lys Trp Glu His Asn Pro Ala Val
100 105 110

Phe Leu Gly Pro Gly Cys Val Tyr Ala Ala Ala Pro Val Gly Arg Phe
115 120 125

Thr Ala His Trp Arg Val Pro Leu Leu Thr Ala Gly Ala Pro Ala Leu

```
    130                 135                 140

Gly Phe Gly Val Lys Asp Glu Tyr Ala Leu Thr Thr Arg Ala Gly Pro
145                 150                 155                 160

Ser Tyr Ala Lys Leu Gly Asp Phe Val Ala Ala Leu His Arg Arg Leu
                165                 170                 175

Gly Trp Glu Arg Gln Ala Leu Met Leu Tyr Ala Tyr Arg Pro Gly Asp
            180                 185                 190

Glu Glu His Cys Phe Phe Leu Val Glu Gly Leu Phe Met Arg Val Arg
        195                 200                 205

Asp Arg Leu Asn Ile Thr Val Asp His Leu Glu Phe Ala Glu Asp Asp
    210                 215                 220

Leu Ser His Tyr Thr Arg Leu Leu Arg Thr Met Pro Arg Lys Gly Arg
225                 230                 235                 240

Val Ile Tyr Ile Cys Ser Ser Pro Asp Ala Phe Arg Thr Leu Met Leu
                245                 250                 255

Leu Ala Leu Glu Ala Gly Leu Cys Gly Glu Asp Tyr Val Phe Phe His
            260                 265                 270

Leu Asp Ile Phe Gly Gln Ser Leu Gln Gly Gly Gln Gly Pro Ala Pro
        275                 280                 285

Arg Arg Pro Trp Glu Arg Gly Asp Gly Gln Asp Val Ser Ala Arg Gln
    290                 295                 300

Ala Phe Gln Ala Ala Lys Ile Ile Thr Tyr Lys Asp Pro Asp Asn Pro
305                 310                 315                 320

Glu Tyr Leu Glu Phe Leu Lys Gln Leu Lys His Leu Ala Tyr Glu Gln
                325                 330                 335

Phe Asn Phe Thr Met Glu Asp Gly Leu Val Asn Thr Ile Pro Ala Ser
            340                 345                 350

Phe His Asp Gly Leu Leu Leu Tyr Ile Gln Ala Val Thr Glu Thr Leu
        355                 360                 365
```

```
Ala His Gly Gly Thr Val Thr Asp Gly Glu Asn Ile Thr Gln Arg Met
    370                 375                 380

Trp Asn Arg Ser Phe Gln Gly Val Thr Gly Tyr Leu Lys Ile Asp Ser
385                 390                 395                 400

Ser Gly Asp Arg Glu Thr Asp Phe Ser Leu Trp Asp Met Asp Pro Glu
                405                 410                 415

Asn Gly Ala Phe Arg Val Val Leu Asn Tyr Asn Gly Thr Ser Gln Glu
            420                 425                 430

Leu Val Ala Val Ser Gly Arg Lys Leu Asn Trp Pro Leu Gly Tyr Pro
        435                 440                 445

Pro Pro Asp Ile Pro Lys Cys Gly Phe Asp Asn Glu Asp Pro Ala Cys
    450                 455                 460

Asn Gln Asp His Leu Ser Thr Leu Glu Val Leu Ala Leu Val Gly Ser
465                 470                 475                 480

Leu Ser Leu Leu Gly Ile Leu Ile Val Ser Phe Phe Ile Tyr Arg Lys
                485                 490                 495

Met Gln Leu Glu Lys Glu Leu Ala Ser Glu Leu Trp Arg Val Arg Trp
            500                 505                 510

Glu Asp Val Glu Pro Ser Ser Leu Glu Arg His Leu Arg Ser Ala Gly
        515                 520                 525

Ser Arg Leu Thr Leu Ser Gly Arg Gly Ser Asn Tyr Gly Ser Leu Leu
    530                 535                 540

Thr Thr Glu Gly Gln Phe Gln Val Phe Ala Lys Thr Ala Tyr Tyr Lys
545                 550                 555                 560

Gly Asn Leu Val Ala Val Lys Arg Val Asn Arg Lys Arg Ile Glu Leu
                565                 570                 575

Thr Arg Lys Val Leu Phe Glu Leu Lys His Met Arg Asp Val Gln Asn
            580                 585                 590
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Glu His Leu Thr Arg Phe Val Gly Ala Cys Thr Asp Pro Pro Asn Ile
        595                 600                 605

Cys Ile Leu Thr Glu Tyr Cys Pro Arg Gly Ser Leu Gln Asp Ile Leu
    610                 615                 620

Glu Asn Glu Ser Ile Thr Leu Asp Trp Met Phe Arg Tyr Ser Leu Thr
625                 630                 635                 640

Asn Asp Ile Val Lys Gly Met Leu Phe Leu His Asn Gly Ala Ile Cys
                645                 650                 655

Ser His Gly Asn Leu Lys Ser Ser Asn Cys Val Val Asp Gly Arg Phe
            660                 665                 670

Val Leu Lys Ile Thr Asp Tyr Gly Leu Glu Ser Phe Arg Asp Leu Asp
        675                 680                 685

Pro Glu Gln Gly His Thr Val Tyr Ala Lys Lys Leu Trp Thr Ala Pro
    690                 695                 700

Glu Leu Leu Arg Met Ala Ser Pro Pro Val Arg Gly Ser Gln Ala Gly
705                 710                 715                 720

Asp Val Tyr Ser Phe Gly Ile Ile Leu Gln Glu Ile Ala Leu Arg Ser
                725                 730                 735

Gly Val Phe His Val Glu Gly Leu Asp Leu Ser Pro Lys Glu Ile Ile
            740                 745                 750

Glu Arg Val Thr Arg Gly Glu Gln Pro Pro Phe Arg Pro Ser Leu Ala
        755                 760                 765

Leu Gln Ser His Leu Glu Glu Leu Gly Leu Leu Met Gln Arg Cys Trp
    770                 775                 780

Ala Glu Asp Pro Gln Glu Arg Pro Pro Phe Gln Gln Ile Arg Leu Thr
785                 790                 795                 800

Leu Arg Lys Phe Asn Arg Glu Asn Ser Ser Asn Ile Leu Asp Asn Leu
                805                 810                 815
```

Leu Ser Arg Met Glu Gln Tyr Ala Asn Asn Leu Glu Glu Leu Val Glu
820 825 830

Glu Arg Thr Gln Ala Tyr Leu Glu Glu Lys Arg Lys Ala Glu Ala Leu
835 840 845

Leu Tyr Gln Ile Leu Pro His Ser Val Ala Glu Gln Leu Lys Arg Gly
850 855 860

Glu Thr Val Gln Ala Glu Ala Phe Asp Ser Val Thr Ile Tyr Phe Ser
865 870 875 880

Asp Ile Val Gly Phe Thr Ala Leu Ser Ala Glu Ser Thr Pro Met Gln
885 890 895

Val Val Thr Leu Leu Asn Asp Leu Tyr Thr Cys Phe Asp Ala Val Ile
900 905 910

Asp Asn Phe Asp Val Tyr Lys Val Glu Thr Ile Gly Asp Ala Tyr Met
915 920 925

Val Val Ser Gly Leu Pro Val Arg Asn Gly Arg Leu His Ala Cys Glu
930 935 940

Val Ala Arg Met Ala Leu Ala Leu Leu Asp Ala Val Arg Ser Phe Arg
945 950 955 960

Ile Arg His Arg Pro Gln Glu Gln Leu Arg Leu Arg Ile Gly Ile His
965 970 975

Thr Gly Pro Val Cys Ala Gly Val Val Gly Leu Lys Met Pro Arg Tyr
980 985 990

Cys Leu Phe Gly Asp Thr Val Asn Thr Ala Ser Arg Met Glu Ser Asn
995 1000 1005

Gly Glu Ala Leu Lys Ile His Leu Ser Ser Glu Thr Lys Ala Val
1010 1015 1020

Leu Glu Glu Phe Gly Gly Phe Glu Leu Glu Leu Arg Gly Asp Val
1025 1030 1035

Glu Met Lys Gly Lys Gly Lys Val Arg Thr Tyr Trp Leu Leu Gly

```
    1040                1045                1050

Glu Arg  Gly Ser Ser Thr Arg  Gly
    1055                1060
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<210> 34
<211> 430
<212> PRT
<213> Homo sapiens

<400> 34

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Gly Asn Leu Thr Val Ala Val Val Leu Pro Leu Ala Asn Thr Ser Tyr
1               5                   10                  15

Pro Trp Ser Trp Ala Arg Val Gly Pro Ala Val Glu Leu Ala Leu Ala
            20                  25                  30

Gln Val Lys Ala Arg Pro Asp Leu Leu Pro Gly Trp Thr Val Arg Thr
        35                  40                  45

Val Leu Gly Ser Ser Glu Asn Ala Leu Gly Val Cys Ser Asp Thr Ala
    50                  55                  60

Ala Pro Leu Ala Ala Val Asp Leu Lys Trp Glu His Asn Pro Ala Val
65                  70                  75                  80

Phe Leu Gly Pro Gly Cys Val Tyr Ala Ala Ala Pro Val Gly Arg Phe
                85                  90                  95

Thr Ala His Trp Arg Val Pro Leu Leu Thr Ala Gly Ala Pro Ala Leu
            100                 105                 110

Gly Phe Gly Val Lys Asp Glu Tyr Ala Leu Thr Thr Arg Ala Gly Pro
        115                 120                 125

Ser Tyr Ala Lys Leu Gly Asp Phe Val Ala Ala Leu His Arg Arg Leu
    130                 135                 140

Gly Trp Glu Arg Gln Ala Leu Met Leu Tyr Ala Tyr Arg Pro Gly Asp
145                 150                 155                 160

Glu Glu His Cys Phe Phe Leu Val Glu Gly Leu Phe Met Arg Val Arg
                165                 170                 175
```

```
Asp Arg Leu Asn Ile Thr Val Asp His Leu Glu Phe Ala Glu Asp Asp
            180                 185                 190

Leu Ser His Tyr Thr Arg Leu Leu Arg Thr Met Pro Arg Lys Gly Arg
        195                 200                 205

Val Ile Tyr Ile Cys Ser Ser Pro Asp Ala Phe Arg Thr Leu Met Leu
    210                 215                 220

Leu Ala Leu Glu Ala Gly Leu Cys Gly Glu Asp Tyr Val Phe Phe His
225                 230                 235                 240

Leu Asp Ile Phe Gly Gln Ser Leu Gln Gly Gly Gln Gly Pro Ala Pro
                245                 250                 255

Arg Arg Pro Trp Glu Arg Gly Asp Gly Gln Asp Val Ser Ala Arg Gln
            260                 265                 270

Ala Phe Gln Ala Ala Lys Ile Ile Thr Tyr Lys Asp Pro Asp Asn Pro
        275                 280                 285

Glu Tyr Leu Glu Phe Leu Lys Gln Leu Lys His Leu Ala Tyr Glu Gln
    290                 295                 300

Phe Asn Phe Thr Met Glu Asp Gly Leu Val Asn Thr Ile Pro Ala Ser
305                 310                 315                 320

Phe His Asp Gly Leu Leu Leu Tyr Ile Gln Ala Val Thr Glu Thr Leu
                325                 330                 335

Ala His Gly Gly Thr Val Thr Asp Gly Glu Asn Ile Thr Gln Arg Met
            340                 345                 350

Trp Asn Arg Ser Phe Gln Gly Val Thr Gly Tyr Leu Lys Ile Asp Ser
        355                 360                 365

Ser Gly Asp Arg Glu Thr Asp Phe Ser Leu Trp Asp Met Asp Pro Glu
    370                 375                 380

Asn Gly Ala Phe Arg Val Val Leu Asn Tyr Asn Gly Thr Ser Gln Glu
385                 390                 395                 400
```

```
Leu Val Ala Val Ser Gly Arg Lys Leu Asn Trp Pro Leu Gly Tyr Pro
                405                 410                 415

Pro Pro Asp Ile Pro Lys Cys Gly Phe Asp Asn Glu Asp Pro
            420                 425                 430
```

<210> 35
<211> 1047
<212> PRT
<213> Homo sapiens

<400> 35

```
Met Ala Leu Pro Ser Leu Leu Leu Leu Val Ala Ala Leu Ala Gly Gly
1               5                   10                  15

Val Arg Pro Pro Gly Ala Arg Asn Leu Thr Leu Ala Val Val Leu Pro
            20                  25                  30

Glu His Asn Leu Ser Tyr Ala Trp Ala Trp Pro Arg Val Gly Pro Ala
        35                  40                  45

Val Ala Leu Ala Val Glu Ala Leu Gly Arg Ala Leu Pro Val Asp Leu
    50                  55                  60

Arg Phe Val Ser Ser Glu Leu Glu Gly Ala Cys Ser Glu Tyr Leu Ala
65                  70                  75                  80

Pro Leu Ser Ala Val Asp Leu Lys Leu Tyr His Asp Pro Asp Leu Leu
                85                  90                  95

Leu Gly Pro Gly Cys Val Tyr Pro Ala Ala Ser Val Ala Arg Phe Ala
            100                 105                 110

Ser His Trp Arg Leu Pro Leu Leu Thr Ala Gly Ala Val Ala Ser Gly
        115                 120                 125

Phe Ser Ala Lys Asn Asp His Tyr Arg Thr Leu Val Arg Thr Gly Pro
    130                 135                 140

Ser Ala Pro Lys Leu Gly Glu Phe Val Val Thr Leu His Gly His Phe
145                 150                 155                 160

Asn Trp Thr Ala Arg Ala Ala Leu Leu Tyr Leu Asp Ala Arg Thr Asp
                165                 170                 175
```

```
Asp Arg Pro His Tyr Phe Thr Ile Glu Gly Val Phe Glu Ala Leu Gln
            180                 185                 190

Gly Ser Asn Leu Ser Val Gln His Gln Val Tyr Ala Arg Glu Pro Gly
        195                 200                 205

Gly Pro Glu Gln Ala Thr His Phe Ile Arg Ala Asn Gly Arg Ile Val
    210                 215                 220

Tyr Ile Cys Gly Pro Leu Glu Met Leu His Glu Ile Leu Leu Gln Ala
225                 230                 235                 240

Gln Arg Glu Asn Leu Thr Asn Gly Asp Tyr Val Phe Phe Tyr Leu Asp
                245                 250                 255

Val Phe Gly Glu Ser Leu Arg Ala Gly Pro Thr Arg Ala Thr Gly Arg
            260                 265                 270

Pro Trp Gln Asp Asn Arg Thr Arg Glu Gln Ala Gln Ala Leu Arg Glu
        275                 280                 285

Ala Phe Gln Thr Val Leu Val Ile Thr Tyr Arg Glu Pro Pro Asn Pro
    290                 295                 300

Glu Tyr Gln Glu Phe Gln Asn Arg Leu Leu Ile Arg Ala Arg Glu Asp
305                 310                 315                 320

Phe Gly Val Glu Leu Gly Pro Ser Leu Met Asn Leu Ile Ala Gly Cys
                325                 330                 335

Phe Tyr Asp Gly Ile Leu Leu Tyr Ala Glu Val Leu Asn Glu Thr Ile
            340                 345                 350

Gln Glu Gly Gly Thr Arg Glu Asp Gly Leu Arg Ile Val Glu Lys Met
        355                 360                 365

Gln Gly Arg Arg Tyr His Gly Val Thr Gly Leu Val Val Met Asp Lys
    370                 375                 380

Asn Asn Asp Arg Glu Thr Asp Phe Val Leu Trp Ala Met Gly Asp Leu
385                 390                 395                 400
```

```
Asp Ser Gly Asp Phe Gln Pro Ala Ala His Tyr Ser Gly Ala Glu Lys
                405                 410                 415

Gln Ile Trp Trp Thr Gly Arg Pro Ile Pro Trp Val Lys Gly Ala Pro
            420                 425                 430

Pro Ser Asp Asn Pro Pro Cys Ala Phe Asp Leu Asp Asp Pro Ser Cys
        435                 440                 445

Asp Lys Thr Pro Leu Ser Thr Leu Ala Ile Val Ala Leu Gly Thr Gly
    450                 455                 460

Ile Thr Phe Ile Met Phe Gly Val Ser Ser Phe Leu Ile Phe Arg Lys
465                 470                 475                 480

Leu Met Leu Glu Lys Glu Leu Ala Ser Met Leu Trp Arg Ile Arg Trp
                485                 490                 495

Glu Glu Leu Gln Phe Gly Asn Ser Glu Arg Tyr His Lys Gly Ala Gly
            500                 505                 510

Ser Arg Leu Thr Leu Ser Leu Arg Gly Ser Ser Tyr Gly Ser Leu Met
        515                 520                 525

Thr Ala His Gly Lys Tyr Gln Ile Phe Ala Asn Thr Gly His Phe Lys
    530                 535                 540

Gly Asn Val Val Ala Ile Lys His Val Asn Lys Lys Arg Ile Glu Leu
545                 550                 555                 560

Thr Arg Gln Val Leu Phe Glu Leu Lys His Met Arg Asp Val Gln Phe
                565                 570                 575

Asn His Leu Thr Arg Phe Ile Gly Ala Cys Ile Asp Pro Pro Asn Ile
            580                 585                 590

Cys Ile Val Thr Glu Tyr Cys Pro Arg Gly Ser Leu Gln Asp Ile Leu
        595                 600                 605

Glu Asn Asp Ser Ile Asn Leu Asp Trp Met Phe Arg Tyr Ser Leu Ile
    610                 615                 620
```

```
Asn Asp Leu Val Lys Gly Met Ala Phe Leu His Asn Ser Ile Ile Ser
625                 630                 635                 640

Ser His Gly Ser Leu Lys Ser Ser Asn Cys Val Val Asp Ser Arg Phe
                645                 650                 655

Val Leu Lys Ile Thr Asp Tyr Gly Leu Ala Ser Phe Arg Ser Thr Ala
            660                 665                 670

Glu Pro Asp Asp Ser His Ala Leu Tyr Ala Lys Lys Leu Trp Thr Ala
        675                 680                 685

Pro Glu Leu Leu Ser Gly Asn Pro Leu Pro Thr Thr Gly Met Gln Lys
    690                 695                 700

Ala Asp Val Tyr Ser Phe Gly Ile Ile Leu Gln Glu Ile Ala Leu Arg
705                 710                 715                 720

Ser Gly Pro Phe Tyr Leu Glu Gly Leu Asp Leu Ser Pro Lys Glu Ile
                725                 730                 735

Val Gln Lys Val Arg Asn Gly Gln Arg Pro Tyr Phe Arg Pro Ser Ile
            740                 745                 750

Asp Arg Thr Gln Leu Asn Glu Glu Leu Val Leu Leu Met Glu Arg Cys
        755                 760                 765

Trp Ala Gln Asp Pro Ala Glu Arg Pro Asp Phe Gly Gln Ile Lys Gly
    770                 775                 780

Phe Ile Arg Arg Phe Asn Lys Glu Gly Gly Thr Ser Ile Leu Asp Asn
785                 790                 795                 800

Leu Leu Leu Arg Met Glu Gln Tyr Ala Asn Asn Leu Glu Lys Leu Val
                805                 810                 815

Glu Glu Arg Thr Gln Ala Tyr Leu Glu Glu Lys Arg Lys Ala Glu Ala
            820                 825                 830

Leu Leu Tyr Gln Ile Leu Pro His Ser Val Ala Glu Gln Leu Lys Arg
        835                 840                 845

Gly Glu Thr Val Gln Ala Glu Ala Phe Asp Ser Val Thr Ile Tyr Phe
```

```
    850                 855                 860

Ser Asp Ile Val Gly Phe Thr Ala Leu Ser Ala Glu Ser Thr Pro Met
865                 870                 875                 880

Gln Val Val Thr Leu Leu Asn Asp Leu Tyr Thr Cys Phe Asp Ala Ile
                885                 890                 895

Ile Asp Asn Phe Asp Val Tyr Lys Val Glu Thr Ile Gly Asp Ala Tyr
            900                 905                 910

Met Val Val Ser Gly Leu Pro Gly Arg Asn Gly Gln Arg His Ala Pro
        915                 920                 925

Glu Ile Ala Arg Met Ala Leu Ala Leu Leu Asp Ala Val Ser Ser Phe
    930                 935                 940

Arg Ile Arg His Arg Pro His Asp Gln Leu Arg Leu Arg Ile Gly Val
945                 950                 955                 960

His Thr Gly Pro Val Cys Ala Gly Val Val Gly Leu Lys Met Pro Arg
                965                 970                 975

Tyr Cys Leu Phe Gly Asp Thr Val Asn Thr Ala Ser Arg Met Glu Ser
            980                 985                 990

Asn Gly Gln Ala Leu Lys Ile His  Val Ser Ser Thr Thr  Lys Asp Ala
        995                 1000                1005

Leu Asp  Glu Leu Gly Cys Phe  Gln Leu Glu Leu Arg  Gly Asp Val
    1010                1015                1020

Glu Met  Lys Gly Lys Gly Lys  Met Arg Thr Tyr Trp  Leu Leu Gly
    1025                1030                1035

Glu Arg  Lys Gly Pro Pro Gly  Leu Leu
    1040                1045
```

<210> 36
<211> 541
<212> PRT
<213> homo sapiens

<400> 36

```
Met Pro Ser Leu Leu Val Leu Thr Phe Ser Pro Cys Val Leu Leu Gly
1               5                  10                  15

Trp Ala Leu Leu Ala Gly Gly Thr Gly Gly Gly Gly Val Gly Gly Gly
            20                  25                  30

Gly Gly Gly Ala Gly Ile Gly Gly Gly Arg Gln Glu Arg Glu Ala Leu
        35                  40                  45

Pro Pro Gln Lys Ile Glu Val Leu Val Leu Leu Pro Gln Asp Asp Ser
    50                  55                  60

Tyr Leu Phe Ser Leu Thr Arg Val Arg Pro Ala Ile Glu Tyr Ala Leu
65                  70                  75                  80

Arg Ser Val Glu Gly Asn Gly Thr Gly Arg Arg Leu Leu Pro Pro Gly
                85                  90                  95

Thr Arg Phe Gln Val Ala Tyr Glu Asp Ser Asp Cys Gly Asn Arg Ala
            100                 105                 110

Leu Phe Ser Leu Val Asp Arg Val Ala Ala Ala Arg Gly Ala Lys Pro
        115                 120                 125

Asp Leu Ile Leu Gly Pro Val Cys Glu Tyr Ala Ala Ala Pro Val Ala
    130                 135                 140

Arg Leu Ala Ser His Trp Asp Leu Pro Met Leu Ser Ala Gly Ala Leu
145                 150                 155                 160

Ala Ala Gly Phe Gln His Lys Asp Ser Glu Tyr Ser His Leu Thr Arg
                165                 170                 175

Val Ala Pro Ala Tyr Ala Lys Met Gly Glu Met Met Leu Ala Leu Phe
            180                 185                 190

Arg His His His Trp Ser Arg Ala Ala Leu Val Tyr Ser Asp Asp Lys
        195                 200                 205

Leu Glu Arg Asn Cys Tyr Phe Thr Leu Glu Gly Val His Glu Val Phe
    210                 215                 220
```

```
Gln Glu Glu Gly Leu His Thr Ser Ile Tyr Ser Phe Asp Glu Thr Lys
225                 230                 235                 240

Asp Leu Asp Leu Glu Asp Ile Val Arg Asn Ile Gln Ala Ser Glu Arg
                245                 250                 255

Val Val Ile Met Cys Ala Ser Ser Asp Thr Ile Arg Ser Ile Met Leu
            260                 265                 270

Val Ala His Arg His Gly Met Thr Ser Gly Asp Tyr Ala Phe Phe Asn
        275                 280                 285

Ile Glu Leu Phe Asn Ser Ser Ser Tyr Gly Asp Gly Ser Trp Lys Arg
    290                 295                 300

Gly Asp Lys His Asp Phe Glu Ala Lys Gln Ala Tyr Ser Ser Leu Gln
305                 310                 315                 320

Thr Val Thr Leu Leu Arg Thr Val Lys Pro Glu Phe Glu Lys Phe Ser
                325                 330                 335

Met Glu Val Lys Ser Ser Val Glu Lys Gln Gly Leu Asn Met Glu Asp
            340                 345                 350

Tyr Val Asn Met Phe Val Glu Gly Phe His Asp Ala Ile Leu Leu Tyr
        355                 360                 365

Val Leu Ala Leu His Glu Val Leu Arg Ala Gly Tyr Ser Lys Lys Asp
    370                 375                 380

Gly Gly Lys Ile Ile Gln Gln Thr Trp Asn Arg Thr Phe Glu Gly Ile
385                 390                 395                 400

Ala Gly Gln Val Ser Ile Asp Ala Asn Gly Asp Arg Tyr Gly Asp Phe
                405                 410                 415

Ser Val Ile Ala Met Thr Asp Val Glu Ala Gly Thr Gln Glu Val Ile
            420                 425                 430

Gly Asp Tyr Phe Gly Lys Glu Gly Arg Phe Glu Met Arg Pro Asn Val
        435                 440                 445

Lys Tyr Pro Trp Gly Pro Leu Lys Leu Arg Ile Asp Glu Asn Arg Ile
```

```
    450                 455                 460

Val Glu His Thr Asn Ser Ser Pro Cys Lys Ser Ser Gly Gly Leu Glu
465                 470                 475                 480

Glu Ser Ala Val Thr Gly Ile Val Val Gly Ala Leu Leu Gly Ala Gly
                485                 490                 495

Leu Leu Met Ala Phe Tyr Phe Phe Arg Lys Lys Tyr Arg Ile Thr Ile
            500                 505                 510

Glu Arg Arg Thr Gln Gln Glu Glu Ser Asn Leu Gly Lys His Arg Glu
        515                 520                 525

Leu Arg Glu Asp Ser Ile Arg Ser His Phe Ser Val Ala
    530                 535                 540
```